WE CLAIM:

1.   A method of detecting the presence of a disseminated cell marker in a sample comprising the steps of

5   a)   eliminating illegitimate transcription-positive cells from the sample; and

        b)   detecting the presence of mRNA that encodes the marker.

2.   The method of claim 1, wherein the disseminated cell marker is a tissue-specific marker.

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3.   The method of claim 2, wherein the tissue is selected from the group consisting of colon, lung, prostate, testis, breast, liver, and skin.

4.   The method of claim 1, wherein the disseminated cell marker is selected from the

15   group consisting of guanylyl cyclase C, Cdx-1, Cdx-2, sucrase isomaltase, lactase, carbonic anhydrase, prostate specific antigen, prostate specific membrane antigen, cytokeratin 18, cytokeratin 19, cytokeratin 20, carcinoembryonic antigen, ErbB2, Erb-B3, epithelial mucin-1, epithelial mucin-18, gastrointestinal tumor associated antigen 733.2, desmoplakin I, epithelial glycoprotein 40, tyrosinase, thyroglobulin,

20   tyrosine hydroxylase, and neuron-specific glycoprotein.

5.   The method of claim 1, wherein the eliminating step is performed by removing CD34+ cells from the sample.

25 6.   The method of claim 5, wherein the CD34+ cells are removed by column chromatography.

7.   The method of claim 1, wherein the sample is tissue or bodily fluid.

30 8.   The method of claim 1, wherein the sample is selected from the group consisting of blood, lymph tissue, and bone marrow.

9.   The method of claim 1, wherein the mRNA is detected a polymerase chain reaction (PCR)-based method.

10.   The method of claim 1, wherein the mRNA is detected by reverse transcriptase (RT)-PCR.

11.   The method of claim 1, wherein the mRNA is detected by nested RT-PCR.

12.   The method of claim 1, wherein the disseminated cell marker is an epithelial cell marker.

13.   The method of claim 1, wherein the marker is selected from the group consisting of guanylyl cyclase-C (GC-C), prostate-specific antigen (PSA), prostate-specific membrane antigen (PSM), carcinoembryonic antigen (CEA), cytokeratin-19 (CK-19), cytokeratin-20 (CK-20), mucin 1 (MUC-1), and gastrointestinal-associated antigen (GA733.2).

14.   The method of claim 1, wherein the marker is GC-C.

15.   The method of claim 1, wherein the disseminated cell is a metastatic colon cancer cell.

16.   A method of diagnosing metastatic cancer comprising detecting the presence of a disseminated cell marker for cancer cells identified as from the primary cancer in a sample that does not normally express said marker, said method comprising the steps of
        a) eliminating illegitimate transcription-positive cells from the sample; and
        b) detecting the presence of mRNA that encodes the marker.

17.   The method of claim 16, wherein the disseminated cell marker is a tissue-specific

marker.

18.   The method of claim 17, wherein the tissue is selected from the group consisting of colon, lung, prostate, testis, breast, liver, and skin.

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19.   The method of claim 16, wherein the disseminated cell marker is selected from the group consisting of guanylyl cyclase C, Cdx-1, Cdx-2, sucrase isomaltase, lactase, carbonic anhydrase, prostate specific antigen, prostate specific membrane antigen, cytokeratin 18, cytokeratin 19, cytokeratin 20, carcinoembryonic antigen, ErbB2, Erb-B3, epithelial mucin-1, epithelial mucin-18, gastrointestinal tumor associated antigen 733.2, desmoplakin I, epithelial glycoprotein 40, tyrosinase, thyroglobulin, tyrosine hydroxylase, and neuron-specific glycoprotein.

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20.   The method of claim 16, wherein the eliminating step is performed by removing CD34+ cells from the sample.

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21.   The method of claim 20, wherein the CD34+ cells are removed by column chromatography.

20   22.   The method of claim 16, wherein the sample is tissue or bodily fluid.

23.   The method of claim 16, wherein the sample is selected from the group consisting of blood, lymph tissue, and bone marrow.

25   24.   The method of claim 16, wherein the mRNA is detected a polymerase chain reaction (PCR)-based method.

25.   The method of claim 16, wherein the mRNA is detected by reverse transcriptase (RT)-PCR.

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26.   The method of claim 16, wherein the mRNA is detected by nested RT-PCR.

27.   The method of claim 16, wherein the disseminated cell marker is an epithelial cell marker.

5   28.   The method of claim 16, wherein the marker is selected from the group consisting of guanylyl cyclase-C (GC-C), prostate-specific antigen (PSA), prostate-specific membrane antigen (PSM), carcinoembryonic antigen (CEA), cytokeratin-19 (CK-19), cytokeratin-20 (CK-20), mucin 1 (MUC-1), and gastrointestinal-associated antigen (GA733.2).

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29.   The method of claim 16, wherein the marker is GC-C.

30.   The method of claim 16, wherein the disseminated cell is a metastatic colon cancer cell.

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31.   A method of detecting the presence of a tissue-specific marker in a sample not associated with the expression of the tissue-specific marker comprising the steps of
       a) eliminating CD34+ cells from the sample; and
       b) detecting the presence of mRNA encoding the tissue-specific marker.

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32.   A method of detecting the presence of a disseminated cell in a sample comprising the steps of
       a)   eliminating CD34+ cells from the sample; and
       b)   detecting the presence of mRNA that encodes a marker associated with the
25   disseminated cell.

33.   A kit for detecting the presence of a disseminated cell marker in a sample comprising
       a)   an affinity column; and
30   b)   primers for detecting the presence of mRNA encoding the marker.

34. The kit of claim 33, further comprising one or more of the following: instructions, pictures of results, positive controls, negative controls, and size markers.

35. A kit for detecting the presence of a disseminated cell marker for cancer cells identified as from the primary cancer in a sample that does not normally express said marker comprising

a) an affinity column; and

b) primers for detecting the presence of mRNA encoding the marker.

36. The kit of claim 35, further comprising one or more of the following: instructions, pictures of results, positive controls, negative controls, and size markers.